**1ª Série do Ensino Médio - Gabarito Comentado**

FÍSICA

**16. Letra B.**

$F^2 = 8^2 + 10^2 + 2 \cdot 8 \cdot 10 \cdot \cos 143$

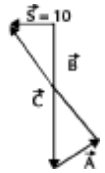
$F^2 = 64 + 100 + 160$ (_0,8)

$F^2 = 164 \_ 128$

$F^2 = 36$

$F = 6$ N.

**17. Letra E.**




**18. Letra C.**

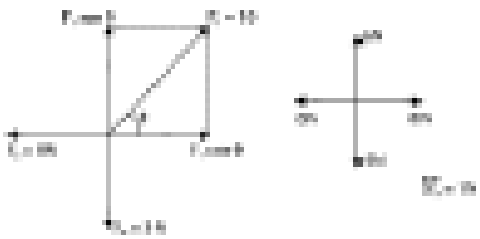
$F_3^2 = F_1^2 + F_2^2 + 2 . F_1 . F_2 . \cos 60$

$F_3^2 = 3^2 + 5^2 + 2 \cdot 3 \cdot 5 \cdot \frac{1}{2}$

$F_3^2 = 49$

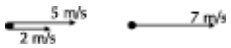
$F_3 = 7$ N

**19. Letra A.**



**20. Letra D.**

**21. Letra E.**



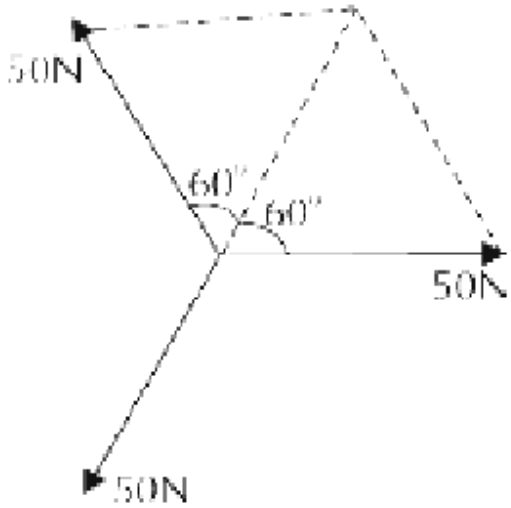

**22. Letra B.**

$v_x = v \cos 60^0 = 50 \cdot 0{,}5 = 25$ m/s

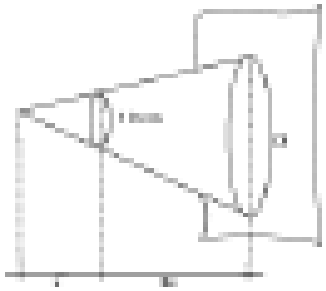
$v_y = v \text{ sen } 60^0 = 50 \cdot 0{,}866 = 43{,}3$ m/s

$v_y = 43{,}3$ m/s e $v_x = 25$ m/s

**23. Letra D.**




**24. Letra A.**



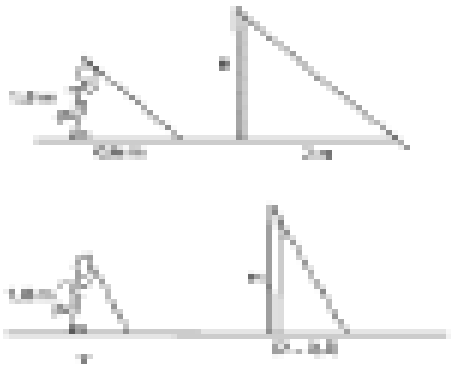
$\frac{K}{4\pi} = \frac{10}{D}$

D = 40 cm

R = 20 cm

**25. Letra A.**

**26. Letra E.**



$\frac{0,6}{2} = \frac{y}{2-0,5}$

$2y = 0,9$

$y = 0,45\ m \therefore y = 45\ cm.$

**27. Letra A.**

Fonte extensa forma sombra e penumbra.

Fonte puntiforme forma apenas sombra.

**28. Letra C.**

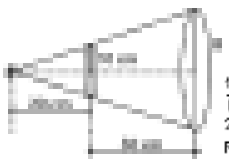
Eclipse solar:

Sol _ Fonte

Terra _ Anteparo

Lua _ Obstáculo

**29. Letra D.**



$\frac{10}{R} = \frac{20}{70}$

$20R = 700$

$R = 35\ cm$

**30. Letra A.**

Lua Cheia _ Eclipse Lunar

Lua Nova _ Eclipse Solar $\frac{1,8}{-} = \frac{\cdot\cdot}{2}\frac{1,8}{-} - \frac{y}{2\ \ .5}$